The RARS EXCITER

Issue 232 July, 1989 Repeater: W4DW/R 146.04/64 Mhz

Imported UHF Ham Gear to Double in Price!!?!

A public hearing was held in Washington, DC on May 24 at the US Trade Commission. The meeting was called by the Office of U.S. Trade Representative (USTR), the federal agency charged with overseeing the Omnibus Trade and Competitveness Act of 1988.

The USTR has determined that Japan is not in compliance with their agreements on telecommunications trade, especially in the area of US Cellular telephone companies trying to establish operations in Japan.

It has been decided that certain product lines will be considered for substantially increased duties, or other import restrictions to strike back against Japan. The hit list includes telephone answering machines, regular and cordless telephones, microphones, speakers, tape recorders, Citizens Band transceivers, Marine VHF-FM transceivers, **and other transceivers for frequencies exceeding 400 MHz!**

The import duty on 70 cm (420 - 450 MHz) amateur radio transceivers is currently 6%. The USTR is proposing a 100% import tarriff ... effectively doubling the price of ham gear operating in the 420 - 450 MHz, 902 - 928 MHz, and 1240 - 1300 MHz band.

Currently, there are no domestic manufacturers of these products. The only manufacturers of this equipment are Japanese: Kenwood, ICOM, Uniden, Alinco, and Yaesu. The US based Heath company imports transceivers from Japan. All would be seriously affected if the USTR proceeds with their announced sanctions.

Fearing a "pricing disaster," the Heath Company has filed a written submission in opposition to the increase. Their argument is that Amateur Radio operators are licensed by the FCC to serve in times of public need or disaster to supply routine and emergency communications. Hams are private individuals responsible for the purchase of their own equipment, and should not be involved in commercial retaliation. Through their Washington DC attorney, Heath has asked the USTR to only impose increased duties on transceivers which transmit at frequencies exceeding 450 MHz and which are not designed for use by amateur radio operators.

W5YI Report 6/15/89

SPECIAL THIS ISSUE:

RARS dues are DUE July 1st!

Read the note from N4IQA on page 3 to check YOUR dues status.

The club's by-laws, as revised at the May 3 meeting, are printed in this issue for your review.

Have a SAFE & Happy 4th of July !!

The Raleigh Amateur Radio Society, Inc. (RARS), founded in 1969, has grown to be one of the premier radio clubs in North Carolina. Current membership exceeds 300.

The objectives of the club are to promote world wide friendship through Amateur Radio; to be of public service by providing radio communication in times of disaster, emergency, or civic need; to educate members in radio technique, and to assist in obtaining Amateur Radio licenses.

All persons interested in Amateur Radio, currently licensed or not, are eligible to apply for membership to the club.

Dues to the club are $10.00 per year (which runs from July 1 to June 30). Applications for membership may be obtained from any of the officers named below; from the newsletter editor, named on the facing column; or at any RARS Meeting.

Club meetings are held the first Wednesday of every month, 7:30 PM, at the Raleigh YMCA, 1601 Hillsborough St.

In addition to the many social and special events, the club sponsors a two-meter repeater, W4DW, on 146.04/64 MHz. The repeater covers all of Raleigh, and most of the surrounding Wake County area. Auto-patch privileges are available to duly licensed RARS members. Future plans call for additional repeaters on the 50, 146, 220 and 450 MHz amateur bands.

1989 Officers:

President: Pete Thacher, N4HQZ
1108 Steinbeck Dr.
Raleigh, NC 27609
876-4073

Vice President: John Thomas, KK4JB
5228 Cedarwood Drive
Raleigh, NC 27609
782-1609

Secretary: Sue Meyer Parks, WB4USX
3 Custer Circle
Durham, NC 27713
544-7952

Treasurer: Tim Buehlmann, N4IQA
1314 Chaney Rd.
Raleigh, NC 27606
851-7738

The EXCITER is published monthly by the Raleigh Amateur Radio Society, and is mailed at no cost to its members.

Letters to the Editor, technical articles, items of interest to the ham community and guest editorials are actively solicited.

Any article published in the EXCITER does not necessarily represent the views of, the Officers, Board of Directors, Editor, or Society Membership, nor does publication thereof represent concurrence by the Officers, Board of Directors, Editor, or Society membership with the contents of the article.

Articles will be printed at the discretion of the Editor, and no article will be published unless it is accompanied by the name(s) of the person(s) submitting the article.

All copy must be in the hands of the editor by the end of the Board of Director's meeting on the third Wednesday of each month. Articles submitted for publication may be hand or type written, an ASCII file on disk (IBM or APPLE format), transmitted electronically via telephone modem, or on the ham bands using RTTY or PACKET.

Ham related items for sale by the members will be advertised without charge for one issue, but may be re-submitted as often as desired. These ads must be non-commercial in nature.

Commercial ads will be run in return for the following donations to the club:

	Single Issue	Full Year
Business Card	$5.00	$25.00
Quarter Page	$10.00	$50.00
Half Page	$20.00	$100.00
Full Page	$30.00	$150.00

(Commercial ads must be of "camera-ready quality," and obviously can not be sent via ham bands.) Due to the reprographic process used, no color copy can be accepted.

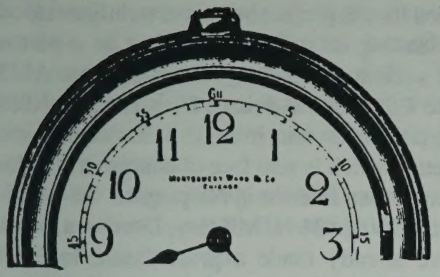
Advertisers are guaranteed a minimum monthly mailing of 250 copies.

Editor: Vince Yakamavich, AA4MY
220 Carriage Trail
Raleigh, NC 27614
847-8512 (Home)
850-5390 (Office)

SPECIAL SERVICE CLUB

Amateur Radio News Service

AMSAT



MINUTES OF THE MEETING

The regular monthly meeting of the Raleigh Amateur Radio Society was held June 7, 1989 at the YMCA on Hillsborough St. Secretary, Sue Meyer Parks, WB4USX, called the meeting to order and welcomed the 75 members and 13 guests in the absence of both the President and VP.

As per the new bi-laws, we must vote in our dues for the upcoming year. The Board recomended leaving our dues the same as last year: $10.00 for full members, $5.00 for associate/family members, prorated thru the year starting in Sept. A motion was passed to accept the proposed dues.

Norm, KN4G, is looking to form a small committee to study operations of the current bi-laws for a 6 month to one year period. The group would then come up with recomendations for additions or changes. See Norm if you would like to participate.

Several reports were given on Field Day. The Umstead location was discussed by Paul, K9PM; Walter, AB4DQ; and Bob, NA4G. The Granvillle County site was reported on by Ed, WA4PEN; Ron, AA4VK; and Andy, WK2F.

An audit committee is needed to look over the treasurers books for the previous fiscal year. The secretary asked for volunteers. N4BYO, Jim; W2EZS, Paul; and WA9NEW, Bruce responded.

AB4DQ, Walter, reported he brought QSL cards for the RARS 20th birthday special event. He told all to take what they need.

Bruce, WA9NEW, had a few announcements. Project DOVE (Digital Operating Voice Encoder) is being nationally launched this fall. This is an attempt to get ham radio into the classroom and involves school students tape recording messages which are upl inked to a satelite and rebroadcast. An effort is being made to involve the Wake County Schools. Contact Bruce if you can help. There is a hurricane preparedness exercise ongoing this week. Our section manager has been notified. If you can lend some assistance on the repeaters, it would be appreciated. Amateur help is requested in several bike races this summer. Contact Edward, N4SSU, if you would like to participate.

Ed, WA4PEN, reported there will be a VHF/UHF meeting June 8 at WA4MJF's house.

Last month Dave, AB4LR, was nominated for 1990 Hamfest Chairman. Since there were no new nominations tonight, the nominations were closed and the membership voted Dave as our new Hamfest Chairman.

Tim, N4IQA, updated the group on the 2 meter amplifier purchase. The original order was going to be 100 @ $45.25 each. We do not have enough orders, so a price for 65 was obtained @ $48.25. Please contact Tim if you are interested.

The program was presented by Johnnie Mayfield, WA9SZL, who gave an informative talk on batteries. After the program several prizes were given.

There being no further business, the meeting adjourned.

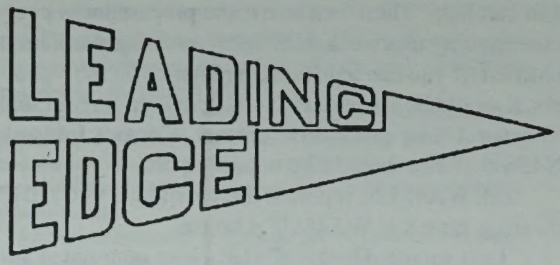
Sue Meyer Parks, WB4USX
RARS Secretary

AS RARS begins its third decade of service to the amateur community it is greatly appreciative of the support each one of you has given to the Soceity in the past year. Our Society has experienced considerable growth recently, not only in size, but in activities centered around the amateur hobby and service to the community. RARS looks forward to expanding its service to YOU and the community in the years to come, and invites you to renew your membership.

Please check the number to the right of your name on this newsletter's address label. If the number is a "0" you are paid up for 1990; a "9" indicates dues are payable. Should there be no number, please accept the newsletter with the complements of RARS.

Enclosed in this newsletter is an SASE and a questionaire. I would appreciate it if ALL members returned the questionaire (and check, if you need to renew) in the envelope provided.

The questionaire will be used to construct a database, so that we can continue to identify and interests and needs of the members. **73 de Tim, N4IQA**



AMATEUR RADIO IN THE CLASSROOM
PROJECT DOVE

Digital Orbiting Voice Encoder, Project DOVE, just doesn't seem to be getting the publicity it needs in the Amateur community. What is DOVE? It's an excellent opportunity to get the story of Amateur Radio into classrooms all around the world.

The brainchild of Dr. Junior Torres deCastro, PY2BJO, President of the Brazilian Radio Amateur Satellite Organization, BRAMSAT, DOVE is scheduled for launch at 0135Z on November 9, 1989. What is different about DOVE from other Amateur Radio Satellites is that it will be continuously transmitting peace messages which have been written and recorded by school children all over the world. These messages, digitally encoded and uplinked to DOVE, will be broadcast, along with English language telemetry data, on 145.825 MHz. In a sun synchronous orbit, DOVE's FM signal should be strong enough to be copied on most any appropriate scanner or two meter ham band receiver with nothing more than a simple whip antenna at approximately 10:30 AM local time anywhere on the planet (and again at 10:30 PM).

Hundreds of tape recorded messages have already been submitted to Project DOVE by students in schools from over a dozen different countries. Lyndon Call, a seventh grader at MacArthur Junior High School in Prospect Heights, IL submitted:

"All these countries stretched across the sea. If we could all work together what a world it would be."

This message has been selected to serve as DOVE's motto.

It may be too late to get additional messages accepted for the project but it's certainly not too late to start planning on using this project as a part of any school's science or language arts programs. AMSAT's Science Education Advisor, Rick Ensign, N8IWJ, is the key point of contact in the U.S. Rick edits a monthly newsletter which is sent free of charge to all educators who express an interest in the project. The address is: Project DOVE, 421 N. Military, Dearborn, MI 48124

I've already made a presentation to the Wake County Public Schools Science Coordinator, Mike Jones. He's promised his cooperation in getting the word out to science teachers in our school system. What can YOU do? Help spread the word about DOVE. Contact the science and language teachers in your local schools. Volunteer time and equipment for presentations in local schools. Take advantage of this excellent opportunity to get Amateur Radio into our classrooms.

Bruce Eggers, WA9NEW

VE REPORT

The June 7th RARS exams had 14 applicants sitting through 30 separate test elements. Seven hams walked away with up-graded licenses, and we would like to extend our congratulations to:

Philip Martin, KC4KST, (Raleigh) Nov -> Tech
Brian Berry, N4TJK, (Fayetteville) Tech -> Adv
Henry Tew, N4RLT, (Fayville) Adv -> EXTRA,
David Jarvis, (Smithfield) Tech -> Advanced

RARS Members upgrading were:

Steve Merchant, N4TQO, Gen -> Advanced,
Edward Griest, N4SWC, Tech -> General

RARS Member **Guy Hill, KC4JFO**, successfully passed 13 wpm, and is sure to pass the General theory next time 'round. Other RARS-ites were still having difficulty with the code, including **Chris Hux, N4PNO**; **Steve Clary, KC4JJZ**; and **Joseph Watkins**. We hope next time will be "the one" for you gents.

One fellow to watch, not yet a RARS member (hows that for subtle persuasion??), **James E. Smith**, a

North Raleigh resident, went from no license and passed ALL of the writtens, Novice through Extra class. Five wpm was a snap, but 13 ... well ... Still in all, quite an accomplishment, to do all those writtens in one sitting. James has already called and asked about the next exam session ...

For those folks visiting a RARS meeting for the first time, we hope we left a favorable impression -- and we hope you'll be back.

RARS VEs were Steve Modena, AB4EL; Bill Ransier, N1BA; Paul Sims, WB4YBF; Joe White, WA4GIR; Chet Rataski, KB4LAF; Martha Silver, NY4H; Bert Bailey, W4FMN; John Mentha, K4FAD; and Dave Williams, AB4LR.

My special thanks to WA4GIR and KB4LAF for "picking up the ball" when I had to leave town suddenly due to the death of my mother. It really is a pleasure to be associated with such a fine group of people.

Next Raleigh Exam, Wednesday, July 5th at the RARS meeting. W5YI VEC. Hope to see you there!

73, Vince, AA4MY

VHF/UHF SIG Report

The regular June meeting of the RARS VHF/UHF SIG was held on June 8th. Present were WA4MJF, WA4PEN, N4SSU, N4UOQ, KB4VYP, WD4EIQ, and KB4OKB. (It will be noted that the undersigned was not present due to baseball game of second harmonic. Many tnx to Dave, KB4OKB for taking these minutes.)

WA1WXL is working on a tentative donation of some hardline coax for the .64 machine. The value of the item (being very expensive) has justified the delay in restoring the signal quality.

The impropriety of some calls heard on 6/8/89 on 04/64 was discussed, as well as control operator's responsibilities for same.

Other potential problems of the 04/64 machine which the new coax may not cure were discussed.

A recommendation was made to suggest to WA1WXL a substitute equipment plan (for which WA4PEN has details) which would allow refurbishing the current Aerotron unit without frequency downtime.

Open vs. closed autopatch access codes were discussed. There was a concensus of opinion that 2 meter autopatches should be closed to both ease repeater congestion and be a viable sales tool for the club in soliciting dues from membership applicants. It also was agreed upon that the 220 MHZ and 440 MHZ autopatches should be open to encourage use on these underutilized bands.

Voice vs. CW ID was discussed for the new repeaters. If a local broadcast personality is used, WPTF-TV was suggested since the other two TV stations are represented on local repeaters.

WA4PEN gave an update on the 220 MHz machine. A special liquid galvanized paint is being acquired for the tower on the building. The old radio station dish and feedline is removed. New 7/8 inch RG-17 and the Hustler G7 obtained through KB4OKB have been installed. The repeater is ready, but the duplexer still has not arrived. If the unit arrives this week, the target date is Saturday 16 Jun for having the 220 MHz repeater on the air.

The frequency for the new 70 cm repeater will be 444.500/449.500. Work will begin as soon as the 1 1/4 meter repeater is running. Since it is not needed for our system, KB4OKB's Motorola 440 package is going to be located (loaned) to the Triangle East Club via WK2F for use in the Smithfield area.

The crystals have been ordered for 145.49 for the RTTY repeater/MSO. The system will feature 100w, @ 100 feet, & will be at 100 wpm baudot. A one (1) second mark tone will be required to bring up the repeater.

KC4HWC will try to get a pig cooker for the SIG picnic on 22 Jul. Mike was left off of the list of attendees, but was present.

Jim, WD4MYM, has an Icom IC 551 (multi-mode 6 meter rig) and a Lunar 130 watt amp for sale for $450.00 -- package price.

Refreshments were served, and the door prize was won by N4SSU.

The next meeting will be on July 13th.

73 de Sherry KB4EXL

Raleigh Amateur Radio Society By-Laws

As amended, May 3, 1989

We the members of the Raleigh Amateur Radio Society, Inc., do hereby declare that the following rules and regulations, not inconsistent with the laws of the State of North Carolina and the Articles of Incorporation of this Society, shall be our governing law.

Section 1 - OBJECTIVE

The primary objectives of the Raleigh Amateur Radio Society are education and public service. Education shall generally be in radio communication techniques and obtaining of radio amateur licenses. Public service is the providing of radio communications in times of disaster, emergency and civic need.

Section 2 - MEMBERSHIP

Sixty percent (60%) of the entire membership of the Society shall be "FULL" members. All persons interested in amateur radio shall be eligible to apply for membership. (A person interested in amateur radio is defined as an individual interest ed in radio technique, good fellowship, and civic activity solely without pecuniary interest.) Duly licensed amateurs holding one of the following classes of licenses: Extra, Advanced, General, Technician, and Novice, may only apply for FULL membership in the Society. Persons that are not licensed may only apply for ASSOCIATE membership. Only FULL members shall have the right to vote at meetings of the Society on matters of business or policy. Membership shall be accepted on application to the Society, and payment of dues.

Special Life Membership may be awarded, upon recommendation by the Board and by a majority vote by of the FULL members present at a regular meeting, to a member of the Society for special services performed for the Society and for Amateur Radio . A Special Life Member pays no dues and is entitled to all the privileges of Full membership.

Honorary membership may be awarded upon recommendation by the Board and by a majority vote of the FULL members present at a regular meeting, to a non-member, of the Society for special services performed for the Society and for Amateur Radio. An honorary member pays no dues and is entitled to all the privileges of FULL membership except voting.

Section 3 - OFFICERS

The Society shall have four officers, which shall be named as follows: 1) President; 2) Vice President; 3) Secretary; 4) Treasurer. Each officer shall be eighteen (18) years of age or older and a "FULL" member of the Society. Each candidate for office in the Society shall have been a member of the Society for a minimum period of one year prior to his or her election to office.

a) Tenure of office - Staggered Elections

The term of office for all officers of the Society shall be for two (2) years except that the term of office for the President and Secretary in the first year of operation (1969) shall be one (1) year. (Thus elections for a new President and Secretary shall be conducted in the month of November 1969, and in the ODD years thereafter.)

The Vice President and Treasurer shall be elected for two (2) year terms commencing in the second year of operation (1970) and for two (2) year terms at all succeeding elections. (Thus elections for the Vice President and the Treasurer, after the initial election in November, 1970, shall occur in November 1972, and in the EVEN years thereafter.)

It shall be possible for a Society officer to be nominated and elected to another office. For example, the Vice President might be nominated and elected to the office of President during the odd year elections. In this event, the former office shall be declared vacant subsequent to the election to the new office, and a special election shall be held to fill the remaining term

of the former office.

b) Nomination and Election of Officers

Nominations for all offices in the Society shall be submitted to the membership at the first regularly constituted business meeting in the month of October in the year in which the elections fall due. All nominations will be noted in the official minutes of the Society by the Secretary. Elections by open ballot shall be held at the first regularly constituted business meeting in the Month of November following the nominations. The newly elected officers shall be invested with the rank o f office at a meeting of the membership in the month of December following, and shall assume the duties of office as of January 1 of the new year.

A majority of the FULL members present at a regular meeting shall be necessary to constitute a valid election of officers, subject to the provisions of Section 6.

In case of two candidates for the same office, that candidate receiving the largest total vote shall be declared the winner. In the case of three or more candidates for the same office, that candidate receiving a majority vote shall be declared the winner. If no one candidate receives a majority vote, a runoff election shall be conducted between the top two candidates, and the candidate receiving the largest total vote in the runoff election shall be declared the winner.

There shall be no restrictions as to the number of times (consecutively or otherwise) that a qualified member of the Society may hold the same or another office in the Society.

c) Actions to remove Officers

Any officer may be removed for just cause upon an affirmative vote for removal by 75% of the FULL voting membership in person or by proxy at a regular meeting. Proxies shall not exceed 50% of the full voting membership. The Secretary shall notify all FULL members of the Society by mail of the action to be considered prior to the meeting at which the vote is to be taken.

d) Duties of Officers

1) PRESIDENT - The President shall preside at all meeting of the society, and shall conduct the same according to the rules adopted; enforce due observance of the Articles of Incorporation and By-Laws; decide all questions of order; sign all official documents that are adopted by the society, and none other; and perform all customary duties pertaining to the office of President.

2) VICE PRESIDENT - The Vice President shall assume all the duties of the President in the absence of the President, and shall, when so requested, aid the president in the performance of his or her duties. The Vice President shall be responsible for coordination of programs for regular meetings and all Society functions.

3) SECRETARY - The Secretary shall maintain a neat and accurate written record of the proceedings at all meeting of the Society (minute book) which shall be available for inspection at all times; sign the official minutes after each meeting; fi le and be responsible for answering all Society correspondence; maintain the Society stationery and seal; bring pertinent correspondence to the attention of the Society at each meeting; distribute the minutes of the preceding meeting prior to the next meeting or read the minutes of the preceding meeting at the next meeting, and notify the entire membership of any special actions to be taken by the Society; and generally perform all other appropriate duties which pertain to the secretary of the S ociety.

4) TREASURER - The Treasurer shall maintain the Society ledger in a neat and accurate fashion by the cash receipts method. The ledger shall be open for inspection at all times. The Treasurer shall be responsible for maintaining the Society bank accounts in a institution of sound financial structure and good reputation; retain and file all canceled checks of the Society, all receipts of expenditures, and shall issue receipts for dues paid by members upon request. The Treasurer shall give quarterly financial reports to the Board (or more often upon request) and shall present to the membership an annual financial statement at the end of each fiscal year. Prior to presentation of the annual financial statement the Society's financial records shall be examined by an ad hoc committee designated by the Board. The Treasurer shall maintain, and publish twice yearly, a separate and accurate record of the entire membership of the Society with addresses, telephone

numbers, grade of license, class of membership in the society, and whether a member of the ARRL; and be responsible for answering any inquiries or questionnaires from Federal or State taxing authorities. The Treasurer shall maintain all Society financial documents and re cords in an adequate and easily identified location, and shall keep the Board advised of it's status.

5) GENERAL - Each officer shall be responsible, at the end of his or her term of office, for turning over all records and items belonging to the Society to the successor, and to indoctrinate the successor as to the respective duties of the office.

a) Vacancy in Office

Any vacancy occurring in one of the Society offices more than six (6) months before the end of the term for that particular office shall be filled by special election.

If the vacancy occurs in one or more of the Society offices with six (6) months or less left in the term for that office, the vacancy shall be filled as follows:

1) If the vacancy occurs in the office of president then the vice-president, in addition to his or her own duties, shall assume the duties of that office.

2) If the vacancy occurs in the office of Vice-President, Secretary, or Treasurer the position shall be filled by appointment by the Board.

Section 4 - BOARD OF DIRECTORS

The Society shall have a board consisting of no less than seven directors. The officers of the Society shall serve as directors of the Society and the election of Society officers shall also constitute the election of those officers to the Board of Directors. In addition, the immediate past president shall serve as a member of the Board of Directors until replaced by his or her successor. Chairpersons of standing committees shall be elected to their chair and simultaneously to the Boar d in the same manner as the officers. Additional directors at large may be nominated and elected to the Board.

The Board shall have broad powers to plan Society activities and to conduct Society business except for those items of business reserved for the FULL membership by the By-Laws of the Society. Decisions made by the Board, acting within it's authority, shall require concurrence of a majority of the board members present at a regular board meeting. A regular board meeting shall require a minimum of five board members to be considered a quorum.

a) Budgets - Disbursements - Issuance of Checks - Saving Account

A budget shall be prepared by the Treasurer, with input from the membership, and submitted to the Board at the beginning of each fiscal year, which shall start on July 1 and end on June 30. The budget shall identify by categories known and predictable disbursements of Society funds. After approval by the Board the budget shall be submitted to the membership at a regular meeting. Approval of the budget by the membership shall provide sole and sufficient authorization to the Treasurer to disburse Society funds in each of the categories up to it's approved maximum. During the fiscal year the Board may authorize reapportionment of funds among the categories. No Society checks may be issued that exceed the budget. The Treasurer is authorized to issue Society checks that are not expenditures, but are merely for handling of money such as the payment to the seller at a Society auction, or as a cash advance.

Non-budgeted expenditures up to two hundred fifty dollars ($250.00) may be authorized by the Board. Non-budgeted expenditures in excess of two hundred fifty dollars shall require both Board and membership approval. Non- budgeted authorization s become part of the annual budget for the current year. All Society funds exceeding that required for operating expenses shall be transferred from the Society checking account to a savings account to be opened by the treasurer. All Society funds shall be held in accounts that are fully insured by a n agency of the Federal Government.

At the beginning of each fiscal year, or other times as necessary, the Board shall review and make appropriate changes to signature authority for all Society financial accounts.

Section 5 - DUES

The annual dues payable to the Society shall be established by the Board and approved by the membership for all classes of membership.

Family membership shall be allowed for one-or-more additional members of a members family. The family membership shall be limited to spouse, children, parents, brothers, and sisters whether-or-not they reside at the same address as the member.

Dues for existing members are payable at the start of each fiscal year. Members who haven't paid their dues by October 15, of the current fiscal year, shall be dropped from the roster. Reinstatement for the current fiscal year shall be made up on full payment of the dues.

Section 6 - QUORUM TO CONDUCT BUSINESS

Notwithstanding other provisions of the By-Laws, ten percent (10%) of the FULL voting membership must be present at a regularly scheduled meeting to be considered a quorum.

Section 7 - AMENDMENTS TO THE BY-LAWS

Amendments to the By-Laws shall be presented by the Board to the membership at any regularly constituted business meeting. The Secretary shall note the proposed amendment in the official minutes and notify the FULL membership by mail of the proposed action before the meeting at which the vote is to be taken. The membership shall then vote on the proposed amendment at the next regularly constituted business meeting. The majority vote in the affirmative of the FULL members present at a re gular meeting shall be necessary to adopt the amendment, subject to the provisions of Section 6.

Section 8 - CONDUCT AT MEETINGS

Robert's Rules of Order (Revised) shall govern proceedings of the Society in all cases to which they are applicable and in which they are not inconsistent with the Articles of Incorporation or the By-Laws of the Society.

Section 9 - COMMITTEES

The Board may designate committees or individuals to oversee or perform the various Society activities. The chairpersons of standing committees shall be subject to election by the FULL membership to their positions and simultaneously to the Board of directors.

Section 10 - ARRL AFFILIATION

Affiliation with the American Radio Relay League, Inc., will be commenced as soon as the Society can qualify. Affiliation with the League shall continue perpetually as long as the Society meets and upholds the qualifications. However, League membership is not a requirement for membership in the Society.

Section 11 - POLITICAL AND PERSONAL ACTIVITIES FORBIDDEN

The Society as an organized body shall not participate or intervene in any political campaign on behalf of any candidate for public office.

No part of the assets or income of the Society shall be distributed to or inure to the benefit of any member, Director or Officer of the Society or any private individual. However, reasonable compensation may be paid for services rendered to o r for the Society affecting one or more of its purposes.

Section 12 - REMOVAL OF MEMBERS

Any member may be removed for just cause upon an affirmative vote for removal by 75% of the FULL voting membership in person or by proxy at a regular meeting. Proxies shall not exceed 50% of the full voting membership The secretary shall notify all FULL members of the Society by mail of the action to be considered prior to the meeting at which the vote is to be taken.

Section 13 - MEETINGS.

a) Regular Meetings

Society meetings shall be conducted on a regular monthly basis, normally the first Wednesday of each month, at a suitable site whose location had been previously communicated to the membership by means of the newsletter.

b) Board Meetings

Board meetings shall be conducted on a regular monthly basis, normally the third Wednesday of each month, at a suitable site whose location had been

previously communicated to the membership by means of the newsletter. The Board meetings shall be open to all Society members.

Section 14 - POST OFFICE BOX

A post office box shall be maintained to act as the Society's official address and to receive it's mail.

Section 15 - Society Newsletter

A newsletter shall be published monthly and mailed to all members to provide them with Society and amateur radio news. The newsletter shall be considered an acceptable means for notifying the membership about forthcoming activities and actions.

Formation of By-Laws And Operation Committee

The recent major modifications to the Raleigh Amateur Radio Society By-Laws, which were accepted by the membership on May 3, 1989, are now history. Considerable thought and effort went into the process of revising the By-Laws. Part of the analysis consisted of intellectual exercises to think out what might happen under various situations and contingencies. The process was far from perfect, one bug has already surfaced. The By-Laws, which calls for elections in November, does not consider the need to have a Hamfest Chairman in place for planning the next hamfest, immediately following the current one. This correction to the new By-Laws will ultimately have to be made.

Other needs to correct the By-Laws may emerge with time. The intent is to develop a small committee to study the operation of the Society in respect to the By-Laws for a period of time, perhaps six months to a year. Recommendations will be made at the end of the time for corrections that should be made to the By-Laws, including the previously identified need for some out-of-phase elections. It is suspected that the corrections that would have to be made would be modest.

Norm, KN4G, is looking for members who might be interested in serving on this committee. If interested please contact him.

TTNTT

(Technical Topics for Non Technical Types)

by wa9new

When is a "Formula" an "Equation?"

The scientist in me always cringes when I hear hams talking about the "formula" for the length of an antenna, or whatever. Webster's Unabridged (based on "common usage") notwithstanding, I say there IS a difference. For example, the "formula" for a loaf of bread might be: One loaf of bread "=" (at this point fill in your favorite ingredients and procedures for making bread). Is this an equation? No! What appears on the left of the "=" is not "equal" to what is on the right! Check it out. Measure the mass, chemical composition, anything else you want. What's on the left does not EQUAL what's on the right! The "formula" for a half wave dipole is reported to be L (in feet) "=" 468/freq (in MHz). Question: Is that a "formula" or an "equation"? The answer to this question appears elsewhere in this issue!

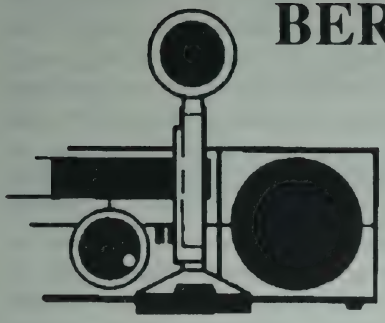
Wedding Bells: N4UOQ & N4SSU

It's official!! Edward Breeden III, N4SSU, and Ms. E. Noble Phelps, N4UOQ, will be tying the knot on October 28th!!

Edward joined RARS back in April '88, and Noble joined in December of '88. Both shared an interest in VHF, and in the course of attending RARS meetings, and the VHF/UHF SIG meetings, well ...

Evidently, both share a keen interest in the Public Service aspects of the hobby as well. Edward is doing a superb job as RARS Public Service Chairman, and when SKY-WARN is activated, Noble can usually be heard from the National Weather Service office from RDU airport.

Those who have met Noble & Edward agree: they will make a fine couple, indeed. Congratulations!!!



BERT'S BEAT

"Bert" Bailey, W4FMN

PHOTONICS ANYONE???

Every novice has heard of using fiber optics for digital optics for digital transmission but how about RF and microwave? Well, with the existing state-of-the-art, we can now use photonic links with RF, and for distances up to 12 miles (that's yesterday. Don't know what it is today). What makes this possible? Well such as semiconductor laser transmitters and photodiode receivers have been built to provide this capability, to include increased bandwidth and ruggedization. (Like that last word? Good, so do I -- Goes with such fine types as straight arrow and Rambo!) Other adaptations of photonics are microwave antenna remoting, upgrading CATV distributions systems, and expansion of cellular radio nets, at least locally. What is in the future? Maybe such goodies as delay lines for radar calibration and feeds for phased arrays and other special antennas for commo. So why give the old reliable coax for fibers? Well, as ole Carl at Alcatel will say in the latest lit, optical cable has much lower loss, immunity to EMI (Hey, Ed, WA4PEN that is, -- hear me?), much lighter weight and cross-section (no snaking problems?? Wow!!) built-in security (Hey Fort Bragg, CIA; liberals, lovers & crooks, take note!), and like the TWTs up above, large bandwith. All this is not fer certain yet, but experiments have been rosy at freqs up to 18 GHz. Does every body, by the way, get this photonics bit?? We've all heard of ELECTRONics, and now we have PHOTONics. Get it?? We're using photons in fiber optics, not electronics like our more prosaic racket -- er -- profession today. Pretty neat. New game, new words. And this new word makes sense. As a matter of fact tat is exactly why fibers do so well. They use photons, bits of light, and not electrons which we all know to our sorrow cause all kinds of cross-talk, QRM in thunderstorms and all other kinds of noise. But photons, they're good -- no noise, no EMI and all that good stuff. All smart people better trade in their decadent electrons for these here new - fangled PHOTONS. 'Nuff said.

(Ed. Note: Sounds like you been talkin to a Fiber Salesman, Bert!! I wouldn't be too quick to trade off the electrons and coax just yet. Yes, fiber has it's advantages, but there's a high co$t involved. Try $12 PER FOOT for single mode fiber. And while the fiber may be more "snakable," don't cut any sharp bends, or your transmission medium will become a very effective ATTENUATOR. Heaven forbid, don't EVER "jerk" the stuff thru conduit, or it's attenuation might approach infinity!! (YOU tell the boss we broke the $10K span....) And then there's dust & mosture. Even a spec inside the connector will wreak havoc! Those hi-tech LASER transmitters & photodiode receivers... nifty, but expensive: $1800 per pair, but that's for "low speed" 50 MHz stuff. 18 GHz? $$$? I cringe to guess. Negatives aside, it still takes plenty of "old-fashioned" ELECTRONICS to get the intelligence INTO, and then OUT OF light!! My call: unless you intend to make your fortune manufacturing the fiber, know ye thy ELECTRONS!! Back to Bert ...)

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There must be some old-timers out there, after all. The April '89 issue of World Radio published my bit from the RARS EXCITER on -- not future ideas or hardware or anything like todays events, but -- guess what?? -- my article on venerable VACUUM TUBES. Eat your hearts out, you non-shaving techs and engineers!

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Women Hams Why So Few?

by Loraine McCarthy, N6CIO

Recently, I was asked by our club President to address the issue of why there are not more women in Amateur Radio. Over the last sixty days, I made a point of asking lots of questions to several different ladies. Some of them were already hams, some of them were trying to become hams, and some of them were not interested in becoming hams at all.

It seems to be a common misconception that ham radio would be a natural for the ladies because they "like to talk so much." One need only tune into a 20 meter rag chew between two fellows to see that EVERYONE likes to talk.

I came up with 5 common reasons why ladies hesitate to become hams. They are as follows:

1. Background: Ladies feel they do not have the technical and electronic background necessary to do the preparation. Although it is different today, a few years ago a boy took shop in junior high, and a girl took cooking and sewing, and was not exposed to other areas. Now that I think back, electronics would have been more useful than sewing!

2. The level of the material and taking the tests seemed frightening to some ladies.

3. Lack of time: Many ladies just cannot afford the time it takes due to employment, family demands, and just not having enough hours in the day.

4. No Interest: Some ladies indicated they just didn't want to ... it just didn't hold any interest to them regardless of the varied activities. It just wasn't their thing!

5. Pressures from family and friends: A few indicated that there was so much pressure that the idea of doing it was just not attractive.

Ladies that are currently amateur radio operators share a wide variety of interests, as do the guys. Many indicated they initially became hams at the encouragement of family members in order to communicate with their family or husband, Others indicated that it was for safety reasons and wanted a radio in the car. Many ladies, once they became hams for their initial reason, became genuinely interested in the other aspects of the hobby: Public service, club events, and just getting involved have added to the fun. Many have continued to upgrade, as do all hams, in order to obtain world wide privileges. It seems to be a general consensus of opinion that once the learning process begins, there is a desire to continue.

If you would like to convince someone to become a ham, be encouraging but avoid pressure. As an instructor, it is easy to tell if a student is in class because he or she wants to be, or because he feels pressured to do so. Point out the benefits to becoming a ham and share some of your experiences that might relate to the interests of the individual you are trying to interest in the hobby.

Remember that the Novice license is attainable without background in the subject, and can open up entire new areas of interest for anyone. Guys, don't sell the ladies short in what you think are their abilities to prepare for the exam. Trying to teach someone ham radio IN SOME CASES can be like trying to teach someone to drive! Sometimes instruction is best done outside the family. Read your student carefully.

And a little more food for thought ... we have "OM" for "old man". We have "YL" for "young lady." Why do we need "XYL." We don't have "XOM."

Where do we go from here? Ladies, if you're one of those who wants to become a ham, or have been thinking about it, or are uncertain -- JUST DO IT!! If you would like to discuss becoming a ham, questions that you have, or just want to comment on any of these points, call a club member. They would like to talk to you!

(Reprinted from INTERMOD, West Coast ARC, Newport Beach, CA, via ARNS)

RARS Congratulates:

Steve Modena, AB4EL, on his first "Making Antennas Play" article (seen in the Feb. '89 EXCITER). This article was chosen for publication in the ARNS Bulletin. ARNS is an association of Amateur Radio newsletter editors, and no doubt, that article by AB4EL will be gracing the pages of newsletters across the country!

DON'T STOP ME NOW

Guest Editorial by Arnold Smith, KA3NTZ, Pennsylvania Wireless Assn.

Have you ever noticed the logos on QSL cards? I got to thinking about it the other day. On the walls and ceiling of my shack are about 800 or so QSL cards, so I checked it out. The three most common logos are (a) antennas, (b) straight keys, and (c) outhouses with antennas. I do not have even one card with a mike prominently displayed.

There are two cards with mikes in the picture. One is on a wall in a glass case with a sign saying, "In case of emergency, break glass" (W1BDN). On the other, it (the mike) is on a shelf covered with cobwebs (NM3K).

It would seem that straight keys are extremely popular as representing the spirit of Amateur Radio. And rightly so. The ability to make use of a key is the only way in which you can differentiate a ham from a CB'er. You could say that a key; ie. a straight key, is the "trade mark" of all Amateurs.

Is it not strange then that so many over the years have struggled to do away with CW as a prerequisite to passing the Novice test or to subsequent upgrading? I am afraid the answer is not pleasant. Did you ever know a lousy bowler to enjoy bowling?

Just about any hobby you may care to enjoy in your leisure requires some training and/or skill. Painting, sculpting, woodworking, photography, any sport you care to name - all have a period of learning as part of it. Many people have never mastered a musical instrument or learned how to dance. Why should becoming an Amateur Radio Operator be different. Why should Amateur Radio be other than what it is?

Another sad observation is that reading and writing are skills necessary for CW operation. Both of these no longer seem to be a requirement in American school systems. The latest figures I have seen say that 24 million + American adults are illiterate to the point where street signs and newspapers are a total mystery. I wonder how many have ham tickets?

To new people inquiring about our hobby the code seems to present the largest problem. Mastery of CW has kept more people from a Novice ticket than any other reason. This also holds true in many cases for the inability to upgrade. Can you imagine what would happen to Amateur Radio with no CW requirement? Think about it. In one year it would be CB all over again.

The continuation and growth of hamming depends on CW. Do away with it and it's curtains for sure. The hobby as we know it would cease to exist.

New Call for SM0BRU

Congrats to RARS Member **Robert Brunn,** ex-SM0BRU, on his new US call, **KM4SS**. In his quest for a US license, Bob had to take all the exams, starting at Novice (his Swedish license was "non transferrable".) At the RARS Hamfest, Bob went from Novice to Advanced, as well as earning a 20 WPM CSCE. At the Durham 'fest, Bob "went all the way" to Extra. Way to go, Bob!!

Ham Fair '89: Plan Now!

The Japan Amateur Radio League, JARL, invites all amateurs to attend Ham Fair '89 at the New Shinkan Hall of the International Trade Center in Tokyo, Japan from August 25 to 27. The fair will focus on two themes, "Operating New Modes During Cycle 22" and "Supporting the Success of JAS-1B" ... Japan's new ham satellite.

Ham Fair is the largest ham gathering in the world, attracting over 57,000 amateur radio enthusiasts last year!

In Memoriam

Veronica T. Yakamavich
Beloved mother of AA4MY
August 4, 1917 -- June 4, 1989

MAKING ANTENNAS PLAY

by Steve Modena, AB4EL

(Last issue I set the objective of designing, building and proving a simple, resonant antenna system using a noise bridge.)

The first target frequency was 14.00 MHz. I calibrated my noise bridge: With a 51 ohm resistor on the "UNKNOWN" terminal of the noise bridge, the noise null occurred at 49 ohms resistive and zero reactance when listening at 14.00 MHz.

Using Radio Shack RG-8 Minifoam, the velocity factor checked out at 0.75 (as advertised). The two-1/2-wavelengths-long transmission line was cut to 52.71 feet ((492/14.00) x 0.75 x 2.0) and a male coaxial connector attached to each end.

In free space, 1/2-wave at 14.00 MHz is 35.14 feet. Most handbooks advise shortening a 1/2-wave dipole by 5% to compensate for "end effects." 35.14 x 0.95 = 33.38 feet.

I soldered two 18-foot pieces of #14 stranded copper to a female coaxial connector. Each end was looped through an insulator. Excess length of wire was wound on the antenna arm. This approach allows lengthening and shortening the antenna as needed. The antenna was adjusted to a length of 33.38 feet.

Using the trees in my backyard, the antenna was hoisted using poly-rope on an East-West axis with one end at 36 feet and the other at 22 feet. Other antennas were in the vicinity. The coax dropped straight down to the ground and then was routed away at a right angle on the ground.

TABLE 1

TRIAL \ FREQ	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5
A	55/0XL	55/15XL	55/30XL	57/40XL	63/55XL	65/75XL	75/105XL	90/110XL
B	49/15XC	50/0XL	45/25XL	45/45XL	40/70XL	50/115XL	55/∞	—
C	110/45XC	90/45XC	75/45XC	60/45XC	55/30XC	50/25XC	50/25XC	55/25XC
D	75/25XC	70/25XC	60/25XC	50/25XC	55/10XC	55/0XL	60/15XL	65/5XL
E	75/30XC	70/25XC	62/15XC	55/10XC	50/0XL	55/10XL	62/20XL	70/35XL

Table 1 Line A shows noise bridge values when the antenna length was 33.38 feet. The resonant (no reactance) frequency was 13.8 MHz. The coax was re-routed to run ALONG and UNDER the antenna. Line B shows that resonance shifted to 13.9 MHz. After moving the coax back to a straight drop and a right angle departure and shorthening the antenna to 32.17 feet, resonance shifted to above 14.5 MHZ (Line C). Way too short! The antenna was lengthened to 32.83 feet. Line D shows resonance was 14.3 MHz.

I continued the NEXT DAY with an antenna length 33.08 feet. Line E shows resonance was 14.2 MHz. The SWR was 1.25 at 14.0 MHz; 1.2 at 14.1; 1.2 at 14.2; and 1.25 at 14.3 MHz. This antenna was fine for the entire 20 meter band without a tuner. Shortening the antenna another inch or two would bring it to 14.0 MHz. But I knew that that would be temporary. You see: when the wind blew, I could hear the antenna impedance shift very noticably on the noise bridge! I wondered which way the impedance would go when to ground finally dried out.

As installed, the radiation resistance of this antenna happened to be quite close to the 50 ohms nominal of the transmitter! Original objective met: SWR under 1.5!

Not willing to leave well enough alone, I decided to make an antenna that I KNEW had a radiation resistance far from 50 ohms. This same 20 meter dipole was formed into 10 DELTA (triangular) loop by connecting the ends together. I anticipated that the radiation resistance would be above 100 ohms.

At this point I'd like to say that it is easy to get into difficulty by confusing fact with assumption. I ASSUMED that my spot-on 14.0 MHz full wavelength transmission line would be SPOT-ON as a 2 full wavelengths transmission line at 28.0 MHz. Not to be!

I wasted considerable time trying make the delta

loop "work." I just could NOT find any circumferencial length adjustment that would read as pure resistance-no reactance on my noise bridge. Near 28.00 MHz the reactance was almost off the inductive reactance end of the scale--always!

Finally I put the 51 ohm resistor on the "UNKNOWN" port of the noise bridge. At 28.00 MHz it read 43 ohms and -23 Xc (capacitive). Now I expected THAT. There is NO SUCH THING as a perfectly linear real world instrument. High price test equipment "acts" linear because the designers build in FREQUENCY-dependent compensation to make the instrument "look" linear. A $50 noise bridge can not be linear from 1 to 100 MHz (rated operational range).

The next measurement was the shocker. My transmission line was two full wavelengths long at 29.25 MHz!!! What? I coupled on a short piece of coax to LENGTHEN the line and the resonance dropped to 28.06 MHz. Coupling on a longer piece (same coaxial material), the frequency dropped farther and in proportion.

The Radio Shack RG-8 Minifoam has a velocity factor of 0.783 (not 0.75) at 28.0 MHz. Spread over 4 multiples of a 1/2 wavelength, this transmission line had enough accumulated error in length to be acting as an impedance TRANSFORMER, not an impedance reflector.

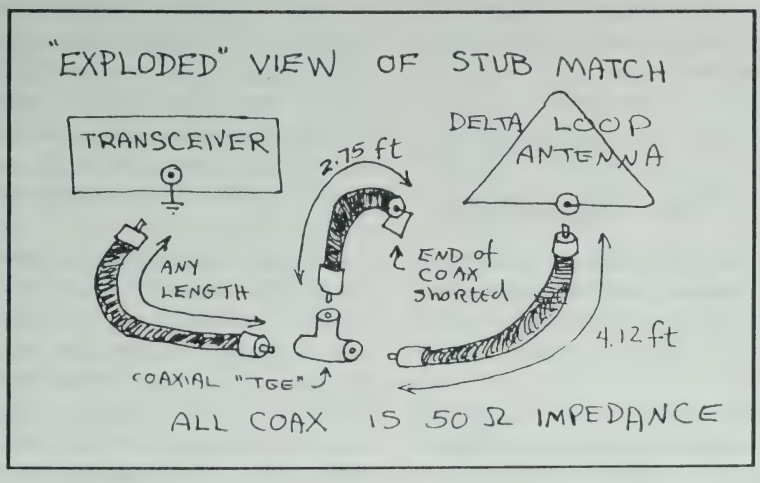
Once I had "lengthened" the coax to 28.06 MHz, the antenna adjustment was easy. I started with the traditional length for a loop: 1005/28.06 = 35.82 feet. With the base of the loop about 13 feet above ground the noise bridge read 45 ohms and -85 Xc (capacitive). Very short. Successive length adjustments finally lead to a "resonant" length of 37.92 feet for a noise bridge reading of 100 ohms and -23 Xc (remember the calibration point). The length of this loop would have been correctly calculated by the formula: (1064/28.06).

(By the way, lengthening the loop another 12 inches gave a reading of 180 ohms plus 120 Xl (inductive) at 28.06 MHz. The bridge, loop, and transmission line were working very well now.)

The 37.92 foot loop was resonant at 28.06 and mismatched to the transmission line: 100 ohms vs. 50 ohms. Indeed, the SWR was 2:1. Now what?

The objective is to transform 100 ohms resistive to 50 ohms resistive. We can NOT use a broadband transformer (so commonly advertised) because they have FIXED transformation ratios of 1:1, 4:1 or 9:1. How do we get an in-between ratio?

I used some 50 ohm coax to do it. The Bill Orr Amateur Handbook has a simple "shunt stub" look-up graph for impedance matching based on SWR values. For an SWR of 2, the "lead away" stub should be 0.15 wavelength or (492/28.06) x 2 x 0.783 x 0.15 = 4.12 feet. The shunt stub may be shorted or open, choosing the one that will be shortest. In this case the shorted stub needed to be 0.1 wavelength or (492/28.06) x 2 x 0.783 x 0.1 = 2.75 feet. Using some odd length of coax that I had, I made up the matching section shown in Figure 1. It was close to what was needed, but not exact.



The result was: SRW 1:1 at 28.00 MHz; SWR 1.1:1 at 28.23 MHz; SWR 1.2:1 at 28.43 MHz; SWR 1.3:1 at 28.60 MHz; SWR 1.4:1 at 28.70 MHz; and SWR 1.5:1 at 28.90 MHz. I believe that this loop and matching system is satisfactory for the parts of 10 meters that I use!

At 28.06 MHz the noise bridge read the transformed impedance as 35 ohms and 25Xc. Yes, that Kenwood or Yaesu or TenTec rig of yours has a

NOMINAL 50 ohm resistive load requirement. Depending on the band and the skill of the design engineers and the price you paid, it's somewhere in the VICINITY of 50 ohms.

To sum up, it's easy to build a simple antenna system that requires no tuner.

FOOTNOTE: Technically, this stub matching system works as follows: a 100 ohms resistive/0 ohm reactive termination is rotated (on a Smith Chart) toward the generator until the arc passes over the 50 ohm circle. At this point in the transmission line the coincident capacitive reactive arc is 35 ohms. To derive the needed cancelling (inductive) reactance, a line is extended from the 50 ohm resistive/35 ohm capacitive juncture through the 50 ohm pure resistance point (center of the chart) onward until the line meets the 35 ohm inductive arc. This happens to be at the outer edge of the Smith chart: the zero ohms resistive arc. To transform an impedance composed of zero ohms resistive and 35 ohms inductive reactance, it must be rotated toward (its) termination by 0.1 wavelength to become zero ohms pure resistance (no reactance). For those with a Smith Chart, try working the problem when SWR=2 because the antenna is 25 ohms resistive (like a 3- element YAGI on 10 meters).

Lasers to Nab Speeders

A New York Times report warns of laser speed traps. A Colorado company has developed a laser speed detector that emits a pencil thin infrared beam that can pick out a single car up to a third of a mile away.

Although countermeasures could theoretically be devised by the $300 million a year radar detector industry, but costs would be prohibitive. The laser units were originally developed for surveying and as military range-finders. They are already in the hands of police in Colorado and Michigan. The hand-held unit weighs only 4 pounds, but costs $3,500 - triple that of conventional police radars.

Insurance studies indicate one car in 7 is currently equipped with a radar detector -- if the laser speed trap catches on, keeping the "pedal to the metal" could become an expensive pass time for a lot of folks!

Facts de W5YI Report 5/1/89

K2VJ Port I-2

Vince Luciani, K2VJ

(Part III is our final installment of K2VJ's 2-month Italian odyssey in sometimes not-so-sunny Italy during the fall of '88. Last installment, the author managed to break away from hamming for a bit of sightseeing which included watching Milan's vehicles scurry along city sidewalks; Piazza del Duomo; symphony at La Scalla; and downtown at lunchtime when wave of leggy miniskirts dash about. Also Rome, Venice, Florence, Piasa, Turin ... concluding with a fabulous fortnight at the mountaintop birthplace of his parents - a perfect DX location - which included a bit of hamming and much Italian feasting, courtesy of several newly met relatives. This series concludes with the author's Italian experience and subsequent recommendations on how to hold an ideal ham club meeting.)

The CQ World Wide DX Contest in late November brought in a different set of operators at the I2VXJ station: Ezio, 9J2EZ; Michelo, I1XQP; and Adriano, I1ZEU. Again, it was necessary to hang around waiting for some eager-beaver op to go for food or drink or sleep (hardly ever, these guys), or the sand box before it would be possible to slip in and grab the key for a few CQs.

Actually, contesting isn't my thing. Had I asked, any of them would have relinquished an operating position. I made maybe a dozen contacts. DX, by the way, is a different world from mid-Europe with a 6 element beam, a linear, and a TS-940.

Speaking of fine equipment, one of the ops lugged in a Henry 3K amplifier -- that's 3+ KW!! The brute sat in the middle of the living room throughout the weekend, all 150 pounds of it, because Italian home electric service simply isn't up to our standards.

You see, despite the 230 volt line service, Giorgio has only 20 amperes of maximum current available. Hence, with all the other gear in place, key down on the 3K would blow the fuse every time.

Should you have raised an eyebrow of the 3K presence, relax. I was assured they always operate linears very lightly coupled in order to comply with their 300 W maximum power limit...

Shortly after the contest, I headed for Cossignano, the birthplace of my parents. Located midway up the east side of the boot on the Adriatic Sea side, Cossignano is roughly on a parallel with Rome, which is on the west side. Built precisely on a mountain top, any DXer would imagine living in any of those houses at the very tip -- a straight line to Rome (about 150 miles distant), and Yugoslavia in view across the Adriatic on a clear day.

Nothing could ever equal the deep-rooted pleasure I now experienced at seeing my parent's home town: the narrow, arched streets; homes; farms in valleys, hillsides, and even on mountaintops; and my dear relatives including a few who remembered my mother. I was blessed to have shared 15 days with two surviving aunts, several cousins, their families and their food; to leave with a satisfyingly contented feeling of having finally recovered a long missing part of my inner self.

Food?? I experienced a bit of vertigo while there and still relive not only the embarrassment, not only the chagrin but also the dismal disappointment of necessarily having had to pass up a banquet for about 15 dinners, set out in my honor. I valiantly sat down to give it a try, but the dizziness and nausea took over despite the happy signals my eyes were sending to my brain.

Ham radio participation in Cossignano consisted of the night Gastone, IW6BBE, came by with a 2 meter rig in his car. We were soon in a 2m round-table with 6 or seven other hams, enjoying what turned out to be an hour long QSO with stations from some 50 - 60 miles away -- all of whom were quite eager to talk to the American who spoke only pigeon-Italian, but could always talk ham radio no matter the language.

Every minute of our round-table QSO was a delight. They knew about U.S. 1X2 call signs, mine being particularly impressive when I explained about the suffix being from my first and middle names. There being no "J" in the Italian alphabet, only "G", was a definite point of humor. A call with a letter that didn't exist!

They had questions on American gear, our magazines, the ARRL, and etc. They were each knowledgeable, friendly and warm. A very nice ham radio encounter, that.

Upon return to Giorgio's, 10 meters was found to be wide open, encouraging an occasional sampling of the band with his linear into the 6 el mono-bander. They always came back... Sometimes confused by the callsign (K2VJ/I2), many stations would launch into a recant of their own past visit(s) to Italy, and what they liked best about the country.

Despite the diversity of the cultures, there was a common denominator to each of those QSOs: Italian food. Everyone raved about and rightly envied me for it.

My final major radio experience in Italy, came off from Giorgio's accidental meeting in nearby Lodi with the local ham club president. He invited us to their meeting that evening. We accepted.

It was already dark when we arrived at what turned out to be an abandoned stone monastery which the city fathers planned to tear down, except local voice was in opposition to the destruction of this 800 year old part of their culture.

A few civic organizations were granted qualified rent-free permission to use certain rooms, which effectively stated that if ever they found themselves buried under tuns of fallen stone, the city was blameless.

Within minutes after our arrival at one of the mysterious inner rooms, a few bottles of Muscato, a beautifully delicate semi-sweet wine were passed around. Many more hams soon arrived and many more bottles were passed around. Everyone was in friendly discussion, each equipped with a glass and within arm's reach of a nearby fresh bottle. Are you beginning to get the idea?

An hour went by. More talking and social drinking; no action insofar as calling the meeting to order. Some left; others came in.

Yet another hour went by with still more gabbing, more hams, more vino. By 11 PM I got the idea there wouldn't be any business meeting. When asked, Giorgio patiently explained that this, you see, was how the hams of Lodi shared their ham radio togetherness every Friday night -- just friendly chatting ... and vino.

We all left in a most happy frame of mind -- they wouldn't let my glass get below the halfway mark. Yet not one of them became too happy. No ain't that the spiffiest formula for a no-stress club meeting??

It brought me back to how my son, Jim, WA2JNN had once described his 1985 visit to Italy. In the simplicity of genius, he aptly summarized it with, "Its a happy place." I fully agree.

Ciao.

'NEW LINE

Bruce Eggers, WA9NEW

PART 97.1(a) CONTINUED

OK, But How Do I Do It?

I'd like to think I made a good case for using formatted traffic during emergency situations back in the May issue. In the way of review, after showing problems which might result from purely "tactical" operations and from just allowing disaster officials to use our radios to speak to each other directly, I suggested a third alternative which might sound like this:

"Please copy my number 16 Priority, W4ABC, thirteen, Shelter 2, Raleigh, 1238L Nov. 28, going to Medical Supplies Coordinator, Red Cross Chapter House, break for text."

"Go ahead."

"Victim June Jones will need insulin by four this afternoon X-ray Please advise break signature Bob Jones, Shelter Manager"

"QSL 16"

It was only a few days later that I got "jumped on" rather spontaneously one afternoon by three or four RARS members. While they appreciated my thoughts, they didn't understand the mechanics. I was rather strongly urged to consider running some "training sessions" on the RARS' 04/64 repeater. OK, I will. And I'll also try using the Exciter. But having said that, let me say that you DON'T become an effective traffic handler/net control station by reading about it or talking about it no matter WHO writes the articles or WHO tries to tell you "How To". You become an effective traffic handler, and maybe a good NCS, by checking into nets and handling traffic. It's like the answer to the old joke, "How do I get to Carnegie Hall?" "Practice man, practice."

Where can you go for practice? Read on!

TIME	FREQ	NET NAME	PURPOSE
7:45 AM	3.927	NC Morning Net	Traffic
6:00 PM	3.715	Carolina's Slow Net	Tfc/Trng
6:30 PM	3.923	NC Evening Net	Traffic
7:00 PM	3.573	Carolina's Net	Traffic
8:00 PM	04/64	RARS Club Net	Emer/Tfc
9:00 PM	28/88	PCTN	Traffic
10:00 PM	3.573	Carolina's Net Late	Traffic

Tune in and check in. And don't freeze if NCS asks you to take one for Raleigh. Just tell 'em you've never done it before but you'll try if they'll help! Believe me, they'll help. If they don't, YOU TELL ME!

Next month: Mechanics, Part 1.

TTNTT SOLUTION

by wa9new

The question was: Is L = 468/f a "formula" or an "equation?" The answer is that it is an equation in every sense of the word. That means what is on the left of the "=" must EQUAL what is on the right. What is on the left has the dimension of length in units of feet, what is on the right has the dimension of time in units of seconds! (Note: Frequency has the unit of "per second" and 1/freq then has the unit of "second".) "So how can feet `=' seconds?", you well may ask. The answer is that we're ignoring the units associated with the "468". What are they? Where does this number come from? Well, if you want to cut an antenna "one half of a wavelength long", the first thing you should ask is, "How long is a wavelength?" To three significant digits, electromagnetic energy (read: radio waves) travel at a speed of 300 million meters per second. That's about 186 thousand miles per second or 984 million feet per second. If you divide that by, for example, 7,200,000 "cycles" per second (read: 7.2 MHz) you find that the full wavelength, or complete "cycle" of such a radio wave is about 137 feet long. One half of that is about 68.4 feet. "But," you say, "468/

7.2 = 65 ft! Why do you say 68.4 ft?'' Well, the largest part of that difference comes from the fact that current doesn't stop flowing at the end of an antenna! The explanation in the handbooks say that the ''formula'' accounts for the fact that a ''half-wave'' antenna should be cut to a length of ''about'' 95% of the ''free space'' wavelength. And ''about'' 95% of 68.4 feet is pretty close to 65 feet. So ''468'' has the dimension of ''length per unit time'' in ''millions of feet per second''. When divided by ''millions per second'', we're left with feet! L = 468/f is an ''equation''. Feet = feet. That's an ''equation''! Coming next: Does Ohms times Farads = Seconds?

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NC 27525

Next RARS Meeting: Wednesday, July 5, 7:30 PM (w/ Amateur Exams)
Raleigh YMCA , 1601 Hillsborough St.
RARS Nets: Daily @ 8:00 PM on 146.04/64
Tuesday, 7:00 PM on 28.364
Technical Information Net - Saturday, 8:30 PM on 146.04/64

Events Calendar

July 05	Regular RARS Meeting w/ Amateur Exams
July 8, 9	Ham Festival, Atlanta, GA
July 13	RARS VHF SIG Meeting. Contact WA4MJF
July 15	HAMFEST!! Cary, NC -- 9AM - 3PM VFW Bldg., Reedy Creek Rd., Cary. Talk-In 146.88
July 19	RARS Advisory Board Meeting -- 7:30 PM YMCA
July 29, 30	HAMFEST!! Asheville, NC
Aug 19, 20	HAMFEST!! High Point, NC